AMENDMENT

(Amendment under Section 11)

To : Commissioner of

the Patent Office

Mr. Hiroshi OGAWA

(Examiner of

the Patent Office)

(Mr. Masamitsu TAKABA)

- 1. Identification of the International Application PCT/JP2004/002344
- 2. Applicant

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- 4. Item to be Amended Claims
- 5. Subject Matter of Amendment
 Claims 1 and 2 are amended.
- 6. List of Attached Documents

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CLAIMS

1. (Amended) An ionization method using cluster-ion impact, comprising steps of:

generating charged droplets of water or

water/methanol mixture in a state in which the droplets

are cooled so as to suppress vaporization thereof;

introducing the charged droplets generated into an evacuated chamber; and

forming an electric field in the evacuated chamber

10 and accelerating the charged droplets by the electric
field to cause them to bombard a biological sample,
thereby desorbing and ionizing the biological sample.

2. (Amended) An ionization apparatus using cluster-ion
impact, comprising:

an accelerator having an evacuated acceleration chamber, in the interior of which accelerating electrodes and a sample table are disposed, provided outside of an ion introduction port of a mass analyzer and communicating with the interior of the mass analyzer through the ion introduction port; and

a charged-droplet generating device, which has a charged-droplet generating chamber that communicates with said evacuated acceleration chamber through a droplet introduction port of said evacuated acceleration chamber, for generating charged droplets of water or water/methanol mixture in the charged-

droplet generating chamber in a state in which the

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droplets are cooled so as to suppress vaporization thereof;

wherein the charged droplets generated by said charged-droplet generating device are introduced from said charged-droplet generating chamber to said evacuated acceleration chamber through said droplet introduction port, the droplets are accelerated by said accelerating electrodes, to which a high voltage has been applied, and bombard a biological sample on the sample table, and ions of the biological sample desorbed and ionized thereby are introduced to the mass analyzer through said ion introduction port.

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